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Financialisation of Capitalist Economies – Bargaining on Conventional Economic Rationalities

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Abstract: *»Die Finanzialisierung kapitalistischer Ökonomien – Aushandlungen der konventionenbasierten ökonomischen Rationalitäten«*. The paper deals with financialisation of capitalist economies since the 1990s drawing on a conventional concept of economic rationalities. It is argued that financial rationality is not the mere outcome of relations of power rooted elsewhere but a power resource on its own. It is analysed as one type of bounded rationality among others, the recent predominance of which traces back mainly to a paradigmatic shift in economics. However predominance does not mean unambiguousness. It is demonstrated that financial rationality on the level of companies or companies' strategies always has to be interpreted and specified in the perspective of other rationalities. And effective financialised strategies are always the outcome of bargaining between social actors bringing into play various interests, power resources, and rationalities. The financial and economic crisis since 2007 is perceived as symptomatic for a new kind of systemic instabilities caused by the predominance of financial rationality.

Keywords: conventions, bounded rationality, financialisation, shareholder value.

Introduction

Putting the hype of financial markets since the 1990s and the following crash in historical perspective, they may be perceived as just one more in the long series of "Manias, Panics, and Crashes" (Kindleberger 2005) going along with capitalist economies from their very beginning in the early 17th century (Kindleberger 2005, 294-303). The intriguing questions remains however, how there could be still so much continuity despite the lessons learned from the previous global financial crisis in 1928 and the following Great Depression, when it had become common knowledge that capitalist economies must be protected against financial markets' notorious instability and irrationality by strict regulation? And why is there still so much continuity? Whereas the crisis since 1928 resulted in a paradigmatic shift in general economic thinking and policies, there

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is nothing like that with the actual crisis. We will discuss these questions of continuity and discontinuity referring to a concept of financialisation[1].

Financialisation of capitalist economies means a rearrangement of (the priority of) reasons that can be used efficiently in order to justify economic action. Where product qualities, market conditions, or technical aspects used to define the opportunities and the limits of reasonable profits, now financial parameters or financial markets' requirements are given priority, at least in principle. At the same time financialisation means a rearrangement of relations of power between social actors, who find it easier or not so easy to refer to the new hierarchy of possible justifications. However, it is not evident, how these two aspects fit together. Is it a change in power relations between actors that enables financial actors to forward "their" reasons more efficiently than before? Or is it the general acceptance of the new reasons that gives more influence to those actors that are able to refer to them more efficiently than others?

Theories of Financial Capitalism or Financial Market Capitalism (Windolf 2005, Windolf 2005, Windolf 2008; Deutschmann 2005; Beyer 2006; Busch 2008) use to refer to the power of institutional investors, sometimes addressed as "the new owners" (Höpner 2003). Ownership, financial dependency, and the ability of "new owners" to combine strategies of 'exit' and 'voice' are taken as the decisive power resources in this view. These aspects are certainly important. However they all operate with a rather vague concept of "pressure", affected by financial actors on non-financial companies etc. The mechanisms that make latent power effective in relation to other actors are not demonstrated very well. Concepts of financial dependency, the market for corporate control, the application of financial market indicators, shareholder activism etc. are conceptually well developed but at best loosely connected to empirical findings.

Publicly listed companies do only marginally depend on financing by shares, if at all. And where replacing dept for equity really increases dependency on financial (bond) markets, this is not the precondition but the outcome of financialised strategies. Targets of hostile takeovers are typically not poorly managed, underperforming companies or undervalued conglomerates, as theories on the disciplinary impact of markets of corporate control would suggest, but companies that are successful and well in line with management mainstream. Manifest shareholder activism happens very rarely. And even when we take into account that managers might anticipate the possibility of such interventions, it is their interpretation that becomes strategy and not that of shareholders. Of course there are road-shows, analyst conferences, 'one-to-ones' with top managers etc. where representatives of institutional investors take influence on management perspectives and by this also on corporate strategies.

[1] We owe the general concept to Froud et al. (2000; 2006; Erturk et al. 2008).

However, these situations are on evaluating and justifying corporate strategies, and not on managers receiving orders given unilaterally by investors or their representatives (Faust, Fisecker, and Bahnmüller 2007; Faust and Bahnmüller 2007; Faust forthcoming; Bébéar and Manière 2003). Finally, there is substantial empirical evidence that when financialisation since the 1990s did increase total shareholder returns this was not because of companies' performance based on successfully implementing financialised business strategies, but because of an increasing demand for shares without increasing supply (Froud et al. 2000; Froud et al. 2006). Moreover, Froud et al. (2006) demonstrate the importance of narratives when business figures of specific companies are linked to an interpretive framework of financial markets' requirements. Put in a nutshell, there is no empirical evidence for financialisation being nothing but the outcome of shareholders' power and strategies.

The argument presented here is therefore, that financialisation must not be perceived as the mere outcome of relations of power rooted elsewhere but first and foremost as being based on financial rationality as a power resource on its own. Financial rationality is conceived as one type of bounded rationality among others, the recent predominance of which has to be analysed as interplay of modern financial economics, political regulation, and bargaining of social actors.

1. Economic Rationalities as Conventional Judgements of Practice

As Herbert Simon (Simon 1949, Simon 1976, Simon 1982) demonstrated, economic rationality, as rationality in social interaction in general is bounded or procedural rationality in any case. These concepts do not just focus on the fact that essential limitations of knowledge and information about future events are causing fundamental limitations of rationality for corresponding actions: uncertainty as developed by Frank A. Knight (Knight 1921). They focus even more on the fact that people are able to deal more or less reasonable with these essential conditions. As acting rational in social contexts relies mainly on reasonable anticipations on other people's behaviour and actions, rationality means the ability to solve problems of coordination, by finding good reasons to ignore the complexity of the world and especially the fact that in principle anything could happen. Acting rational or having rational expectations means therefore being able to rely on principles and perceptions that can be expected to be more or less generally shared by others in a relevant social context. Principles and criteria of rationality therefore are conventional, based on sufficiently common understandings, just like language. There are more rationalities but one, not only in a historical or an intercultural perspective, but also at the same time within the same society, depending on situations. And people's ability to behave rational in a given society is based on their ability to navigate

between different rationalities with respect to different situational contexts (Dodier 1991). What is rational therefore is not so much a question of philosophy or logic, but to a great deal an empirical question of actors' reasons for practical behaviour.

As a conceptional framework to deal with this plurality of rationalities, French conventional economists (Boltanski and Thévenot 1991, Boltanski and Thévenot 2006; Orléan 1994, Orléan 2005; Salais, Chatel, and Rivaud-Danset 1998; Storper and Salais 1997; Batifoulier 2001; Thévenot 2001, Thévenot 2006; Favereau 2008) have developed the concept of orders of justification: registers of criteria and principles that allow actors to identify and to specify situations and to make clear what may be rational with respect to a given situation or a situated problem. So individual means-ends-rationality, personal trust, loyalty, reference to a collective or general common good, technical efficiency, reputation, or the ingenuity and inspiration of enlightened actors stand for different orders of justification, that coexist not only in present days' societies but also in economic organisations.

It is important to see, that rationality and legitimacy are essentially connected in this concept of justification. To justify one's current actions and expectations means basically finding reasons how to act. This may happen completely informal by routinely orientation in a narrow localised social context. It may happen by implementing organisational rules and procedures. And it may happen by explicitly confronting different general principles of action. Laurent Thévenot (2006) recently developed a theoretical framework on these different levels and modes of conventional justification and on their interrelations among each other. In any case, as John Dewey (1915) forcefully demonstrated, judgement in practice is always on means and ends or on facts and values *at the same time*. It is not only that means are chosen with respect to ends and values. Means that are perceived in a given situation are on their part framing the perspective on what ends can be chosen, and what values may be relevant and with which priority in that situation. So justifying action in a given situation as rational or as legitimised has to be perceived as the two faces of the same coin.

It is clear, that conventional orders of justification are no definitive solution for the problem of uncertainty. Conventional orders of justification do not transform real uncertainty into really calculable risk or make bounded rationality substantial. The identification and specification of situations is conventional itself, and conventional orders of justification have to be taken as social heuristics. The problem of double contingency and resulting uncertainty is not definitely solved but managed in a context of pragmatic social interaction. The validity of conventional rationalities therefore can be compared – as André Orléan (1999, 2005) did with respect to financial market conventions – with that of scientific paradigms in Kuhns' concept: rather stable constructions of reality, open and flexible enough to structure the perception of new develop-

ments and events, and therefore not brought down by contradicting events, but if at all then by an accumulation of such events connected to another or new paradigm.

As a result of the plurality of economic rationalities, structuration of situations by referring to conventional orders of justification is not unambiguous and once forever. In most situations there are points of reference for more than one order of justification to be brought into play. So in an automotive company p.e. the question will not, or at least should not be whether criteria of technical efficiency *or* of cost calculation *or* of the inspiration of designers etc. may justify rational economic action, but to what extent and with what priority each of them come into play. And beside situations where all relevant participants agree on one order of justification as relevant or on a clear and well defined hierarchy between more than one, there are many other situations of more or less provisional compromise between competing interpretations of situations and their defenders, or even such situations, where the priority of a specific interpretation is enforced by power stemming from resources elsewhere.

However, bringing into play orders of justification is not just an alternative to power, but also an important source of power itself. Being able to justify ones arguments referring to generally accepted criteria of rationality, or to put through an interpretation of a situation, where one's arguments outweigh those of others gives power to an actor in that situation. So by founding an order of relevance between reasons and aspects to be brought efficiently into play in situations, orders of justification also define hierarchies of influence or power between actors. So the power of the better argument is not a matter of intellectual excellence in the first place, it is socially constructed.

David Stark has defined entrepreneurship as "*exploitation of ambiguity*", that is "*the ability to keep multiple orders of worth in play and to exploit the resulting overlap*" (Stark 2000, 5)[2], an ability that is according to Stark not attributed to persons but to organisations. We would extend this interpretation by analogy and say that the quality of social integration and the economic potential of a society depend on this ability, attributed to the society in this case. On the other hand, this ambiguity, this coexistence of different orders of justification also is a crucial at least potential source of change (Stark 2009), especially in such constellations, where competing rationalities are only provisionally balanced in fragile compromise or even by force. This holds even more when external change brings established criteria and orders of rationality and legitimacy under pressure, giving actors the opportunity to question effectively the existing order. Where this induces a reconfiguration of economic rationalities, this reconfiguration means political and social reconstruction of reality in a very practical sense, where relations of power and interest are se-

[2] "Orders of worth" is equivalent to "orders of justification" in the terminology of this paper.

verely involved, and where changes in social relations of power and interest use to be an important outcome. The financialisation of capitalist economies since the 1980s in my view must be perceived as process of this kind.

Now focussing on financial rationality as a power resource of its own instead as a mere outcome of power relations based on resources elsewhere does not mean that financialisation is nothing but a new mode of intellectual or cognitive framing. The institutionalisation of ownership, the public re-regulation and the globalisation of financial markets, etc. are parts of the story that must not be ignored. To bring things together Jens Beckert (2009) recently developed a concept of social fields as interrelations of institutions (in the narrow meaning of rules), social networks and cognitive framings, influencing, stabilising, or destabilising each other.

The point to be made here is that changes in the area of cognitive framing were crucial. Without recalibration of concepts and criteria of economic rationality bringing financial rationality from the margins to the core of economics, financialisation would not have happened as it did. Donald MacKenzie (2005, 2006), Axel Preda (2005) and others have demonstrated, how new developments in financial economics established calculability, where just betting, guessing, gambling used to prevail. They created legitimacy and public legitimisation for products and activities that were perceived as illegitimate gambling before and even forbidden. And they made financial economics the core discipline of economics in general, not just because of its intellectual elegance, but much more because of its enormous practical impacts, by not just framing the perception of economic reality but economical reality itself. MacKenzie has analysed this under his concept of performativity. Most of the new institutional regulations would not exist without the cognitive and ethical foundations provided by financial economics. The prudent expert would not have become the point of reference in US pension funds legislation (Lavigne 2002, 128-131; Montagne 2002; Ravikoff and Curzan 1980), if his expertise still consisted of lead-pipe cinches or fail-safe systems as they always have existed around casinos, lotteries, or betting shops. And most of financial intermediaries, knowledge-brokers etc. wouldn't exist without the huge and continually increasing bulk of new financial products based on financial economics used as a manufacturing technology.

In a nutshell: Financialisation should be perceived as a reconfiguration of capitalist economies mainly enabled by economics and the establishment of a new concept of financial rationality, or as Michel Callon (1998) puts it, as a new "embedding of economy in economics"[3]. That includes the fact that this

[3] There is however an important difference between the conventional understanding of this 'embeddedness' presented in this paper and Callons and Muniesas perspective on "distributed collective agencies" (Callon and Muniesa 2005). What financial rationality (and other economic rationalities) finally mean and how they work depends (also) on the interpretation

new rationality provided also new resources of power for actors that had already been there. Included is also that economics should be perceived as a social field itself, where institutions, networks and the consolidation of cognitive categories interact. In this perspective Geoff Lightfoot (Lightfoot forthcoming) demonstrates the impact of top journals, and editor-contributor networks on what finally have become scientific standards in financial economics (see also: Veldman 2009).

But how does financial rationality work when being applied to economic reality? Until now we have discussed financial rationality as one category of economic rationality among others. And we have identified the problem of rational economic action in finding a satisfying (Simon) way of managing the plurality of economic rationalities. However there is a sort of simplification in this argument, because there is no application of any economic rationality without interpretation. Or to put it in another way: The reality of conventional economic rationalities relies on economic actors interpreting similar situations in more or less the same manner. So even when actors agree on identifying a problem for example as a problem of technical efficiency, this is in most cases not the end but the beginning of debate.

With financial rationality things are even more complicated, because by looking at the conditions of its application we find two significantly different perspectives on reality, which are only loosely coupled at best: one on financial markets as markets, and one on non-financial companies and their strategies from a financial markets' perspective. We will first discuss rather briefly the implications of the first and in the following section more extensively those of the second perspective.

2. Financialisation – a Perspective on Financial Markets

The perspective on financial markets is the original one. The focus of financial economics' modelling was explicitly not on single companies' business strategies but on enabling financial investors to make investments in the financial markets without having to look for what companies really do (MacKenzie 2006). Calculable risk did exactly not rely on understanding or even looking on business strategies but on interpreting statistics. Providing models for calculable risk had as its indispensable prerequisite the diversity of companies as its independent variable; without variety no calculation on probabilities. Homogenisation of business strategies based on financial models may even cause problems for the validity of these models, at least in the area of financial busi-

and practical intentions of situated actors. For a critical discussion based on empirical references cf. (Aspers 2007; Mirowski and Nik-Khah 2007).

ness, when we follow MacKenzies' analysis on the LTCM-crash in 1998 (MacKenzie 2005).

To put it more generally: The focus of financial mathematics' modelling is on making strategies of financial investment and their risk independent from success and failures of any concrete business strategies in the financial and non-financial economy. In this line Karin Knorr-Cetina (2005; Knorr-Cetina and Bruegger 2002, 2002) has conceptualised financial markets as a virtual global sphere of its own where financial markets are on the display of financial specialists' computers – and nowhere else. We think this is correct, although there may be some gradations between currency markets and other financial markets segments. However, this decoupling of financial markets from the rest of economic reality does in fine not create real independency but (at least also) blind spots. Some of them are quite simple:

- Figures in financial business reports are not really reliable when companies are allowed to put risky businesses in non-consolidated special purpose entities, as demonstrated to the great public already by the Enron crash in 2002 (Windolf 2003; Coffee 2002; Froud et al. 2004).
- It is (or should be) evident that the validity of historical data on loan defaults for actual calculations is at least somehow affected by new practices of (not) dealing with risk by securitisation, when bankers pass away credit risks and no longer engage in actively avoiding credit failures.
- Moreover, the rules of the game may change fundamentally when risk calculations based on historical data become the basis of strategic action, and randomness may be replaced by mimesis or imitation, as demonstrated early by Keynes (Keynes 1936, 153-158; see also: MacKenzie 2005; Orléan 1999)
- There had been notorious instabilities in financial markets since the 1980s with severe crisis being averted several times just by singular ad hoc intervention (Orléan 1999; MacKenzie 2006, 1-6).

These and other sources of frictions and instability that were quite obvious where finance and financial activities were perceived as real world social activities had simply no place in the hermetical and self-referential world of mathematic models and computer displays of financial economics. Or to put it differently: There was a lot of specialised financial expertise necessary *not* to see or to interpret away those phenomena that would have made at least bad feelings to non-professionals when explained in everyday language.

Another very fundamental blind spot refers to the limits of calculability based on normal distribution. Nicholas Taleb (2004, 2008) developed this in a popular manner with the impressive picture of the "black swan", referring to Benoit Mandelbrot's theory of fractals.

The crucial impact of financialisation at this point is not the occurence of blind spots or black swans. The boundedness of rationality implies blind spots by definition. And black swans do not occur because of but in spite of financial

rationality. The crucial impact of financialisation in this perspective is, that by becoming embedded in economics of the sort economies and societies loose the consciousness that it might be necessary to be prepared to the existence of blind spots and to the occurrence of black swans.

3. Financialisation – a Perspective on Companies

Financialisation of companies is brought about by the invention and introduction of principles and concepts of Shareholder Value Management or Value Based Management. Both terms refer to the same concepts and instruments. But while these concepts and instruments are justified explicitly by the interests of one separate group of stakeholders in the first case, the reference in the second is on companies and there "value" *sans phrase*. This semantic shift from particular interests to general requirements of value creation is important with respect to the generalisation of respective concepts and instruments. Not (only) shareholders but (above all) fundamental principles of value creation require their implementation. Frédéric Lordon (2000) has analysed the operation of establishing "value creation" as a cognitive standard under the concept of "*idée simple*": a simple formula offering a broad range of interpretations, that is so generally accepted in a social context that referring to it spares actors to go more into details when justifying economic action. Earlier formulas of this kind were "economic growth" under Fordism or "globalisation" in the 1980 and early 1990s.

Financialisation of companies implies a fundamental redefining of what a company is. The main points of this redefining are the following:

- Profit objectives are no longer based on evaluating internal resources but on key figures such as CAPM, EVA, ROCE etc justified as financial market requirements; the return on risk-free investment plus a premium for the specific risk of an investment in an individual company define the threshold between destruction and creation of value by an investment.
- The company is perceived now as a flexible investment-portfolio instead as a continual social entity.
- Portfolio management becomes the core of strategic management instead of focussing on internal growth and organisational learning.
- Strategic focus is on "*core competencies*" and against combining different businesses in order to balance different types of uncertainty and risk.
- Former synergies across different business areas are redefined – and tabooed – as "*cross subsidising*".
- An increasing part of (increasing) management remuneration becomes flexible and linked to periodical financial performance.

These principles are not easily implemented. And Froud et al. have demonstrated the shortcomings of profit metrics when practically applied as well as

the importance of narratives as cognitive compensation for these lacks of consistency (Froud et al. 2000; Froud et al. 2006).

These shortcomings reflect a fundamental problem of applying financial markets' requirements on non-financial business. The essential function of financial markets is preventing liquidity for investors by enabling financial investment into the real economy without the long term fixing of financial resources that are linked to the implementation of strategies in the real economy. This implies that there is no direct application of financial markets requirements on non-financial business strategies. Financial markets requirements become relevant only by interpretation with respect to specific product strategies, market conditions etc. In a nutshell: To become relevant for non-financial business strategies, financial rationality has to be interpreted and specified in the light of other rationalities.

In what follows the counterbalancing of the alignment to financial markets on the one hand and the conditions of the real economy on the other will be analysed with examples taken from the pharmaceutical industry. Firstly the shift between former and actual justification of economic action is particularly essential in the pharmaceutical industry, where the interplay of different rationalities used to be rather complex in the past and has become much more univocal by financialisation. Secondly pharma is an especially telling example for the dilemmas in dealing with real uncertainty in Knight's sense. Accordingly the innovative pharmaceutical business was traditionally embedded in dealings with assessable risk like generics, or – as in Germany, France, and Switzerland – combined with chemical business.

4. Eflornithin – on Changing Economic Perspectives on Drug Development

Although marketing is the most important function of pharmaceutical business in terms of investment shares, being able to develop marketable new drugs is the core competence of pharmaceutical companies, based on external or internal early research. The criteria for deciding on research and on subsequent development projects have been more or less the same in all pharmaceutical companies for a long time: the expected volume of the market, i.e. the number of people affected by the disease to be addressed by a new drug; the financial background of those people, i.e. the level of their incomes and the coverage of respective public health systems; the expected costs of the project, and finally the expected likelihood of success or failure. Growing importance of "lifestyle drugs" stands for optimisation with respect to market criteria, that of "me-too-drugs" for the increasing importance of costs and (calculable) risk.

The case of Eflornithin may demonstrate how conventional practices in dealing with these criteria changed with financialisation. Discovering and developing Eflornithin as a drug against sleeping sickness was the most important

breakthrough in fighting severe mass diseases in third world countries in the 20th century. The new drug is much more effective and causes much less harmful side effects than its very old and highly toxic predecessors. Its efficacy against the tropic illness was discovered by the laboratories of US-based Merrell plc, where researchers originally tried – unsuccessfully – to develop a drug against breast cancer. Being able to continue development in this new direction was possible because pharmaceutical companies operated more as generalists and not focussed on a narrow portfolio of indication as core competences. And deciding to continue development with the new focus meant spending resources on a drug for poor people without money and without public health coverage in by far the most cases.

Against the background of the aforementioned criteria it is quite clear that Merrell as any other drug company would not have invested in research and development of a drug for third world people without money. However, when the efficacy and the effectiveness of the drug were detected in a late stadium of development when most of the money for the project already had been spent, aspects of scientific commitment, proven technical feasibility, and public responsibility obviously out-ruled the dimension of financial returns. For our argument it is important to take this not as a story of ethical versus economic perspectives but of an economic decision on economic alternatives. In this situation financial rationality alone obviously did not provide sufficiently 'good reasons' to stop the project, when other rationalities framing the companies' collective knowledge base pointed to the opposite direction.

At the end of the 1980s the situation had changed significantly at this point. After several mergers Merrell had become part of Marion Merrell Dow in 1989. Sites, laboratories, and products were evaluated in order to leverage synergies, with synergies being understood as cost reduction by consolidating capacities and product portfolios. It was decided to withdraw the non-profit drug from the market, the decision becoming effective in 1995, when the company had become part of Hoechst Marion Roussel (HMR), the pharmaceutical company of German Hoechst Group. Withdrawing the drug was completely in line with the restructuring strategy of Hoechst's top management implementing more or less a textbook version of Corporate Value Management. Giving property rights on the drug to the World Health Organisation (WHO) and agreeing to finish about 10.000 units of remainders did not really help because synthesising Eflornithin is complicated and expensive. The WHO could not find a new producer, and the capacities of sleeping illness treatment degraded severely from the end of the 1990s on.

When Eflornithin saw a resurrection after 2000, it was not as a drug for poor people suffering from sleeping illness, but for solvent women suffering from facial hair. US Company Bristol Myer Squibb had discovered the drug's efficacy in this highly profitable indication by accident and built up production capacities. The WHO's efforts to make the company produce Eflornithin also

for medical use, what would have required some special production steps, where not really successful, despite public debate. Finally however, Aventis SA (and SanofiAventis SA after a hostile takeover) showed impressed by the public debate and agreed to produce Eflornithin for the WHO for initially five years and to support activities to establish independent production capacities for the WHO. Again, in our view policies of BMS and Aventis should not be analysed as economic (only) against ethics (also), but as alternative economic decisions, referring on different conceptions or conventional framings of economic rationalities.

5. Blockbuster Drugs and Mergers – Two Sides of the Pharmaceutical Industry's Alignment to the Financial Markets

The realignment of the pharmaceutical industry since the 1990s is exemplary for the interplay of impulses coming from the real economy and the orientation towards the financial markets. This realignment would not be conceivable without the success stories of drugs like Prozac and Zantac. The first mentioned was an anti-depressant by the US-company Eli Lilly, which was successfully marketed as an everyday product for lifting the spirits and as such could reap much higher profits than originally expected. In the latter case the British pharmaceutical company GlaxoSmithKline, by means of clever marketing, managed to present the modification (only just patentable) of a truly innovative forerunner product[4] as a fundamental innovation in itself, thereby achieving the highest annual turnover and the highest annual rate of return ever met by one product in the industry (Froud et al. 2006, 149-223; Wright 1996). Both cases clarified how one could reach hitherto unknown levels of profit by means of strategic marketing. In fact they became prototypes of a business model concentrating purely on patent protected, highly profitable key products with an annual turnover of at least a billion dollars – and on the markets and the indications where such turnovers and margins could be generated. Since the 1990s the share of turnover of a few top-products became a key figure for the assessment of pharmaceutical enterprises by stock market analysts. Accordingly the major German and other European pharmaceutical companies too shed their generics branches, and partly with high losses – despite the fact that shortly before in some cases such as Hoechst and Bayer the very same branches had been enlarged by strategic acquisitions with an eye towards the eastern European markets (Kädtler 2006, 81-83).

[4] The real innovation was the drug Tagamet, put on the market by Smith, Kline & French in the late 1970s. This medicament made it possible to reduce the development of stomach ulcer (and its subsequent surgical treatment) by 80 percent.

The focussing on products reaping turnovers of that calibre resulted in a fundamental internal dilemma of competing economic rationalities. In a real economic perspective based on scientific and technical rationalities, engaging in uncertainty by focussing on extremely unlikely events like developing a blockbuster inevitably implies discontinuity. In this perspective high earnings are justified by the necessity to be prepared for the inevitable downturns, when drugs run out of patents. According to this logic high profits enable business continuity based on a sufficient amount of retained earnings. Financial rationality in a Corporate Value Management perspective builds on the argument that high risk should be balanced by high profits, however requiring at the same time continuity for peak level profits, high payout ratios, and dediversification by focussing on blockbusters. This alternative justification of high pharma profits is based on neglecting the difference between individual investments in (liquid) pharma stocks on the one hand and organisational irreversible investment in (not only) pharma innovation on the other (Lazonick 2001, Lazonick 2004). The result of this short-circuit is a fundamentally instable business model.

The effective resort from this dilemma has been a marked dynamic of mergers and takeovers. Making blockbusters the exclusive base of a company's strategy and making continually high profits is a realistic option only connection with perfunctory external growth. This is even more the case because the narrow focussing on innovative products is not accompanied by a surplus in product innovations. To get to the point: These days the continuity of high turnovers (in pharmaceuticals) is secured by defensive[5] mergers and takeovers and not by product innovations – flanked by the longstanding failure of above all the US administration, to efficiently limit the prizes of pharmaceuticals. The industry's stylized image as being innovative is primarily based on a linkage of individual success stories, intensive marketing and an efficient communication with the financial markets. Euphoric expectations raised by short-term successes in bio technology and genetic engineering contributed temporarily to this image – but by now have been replaced by a clearly more sober mood.[6]

6. Pharmaceutical Innovations and Financial Controlling

To habitually opt for defensive mergers is less of a consciously chosen strategy. It's rather perceived as the only solution possible under the given circumstances because all projects to reorganise pharmaceutical companies have made

[5] They are perceived as defensive, because from the company's perspective they primarily serve the purpose to compensate for the running out of some of their own major patents by taking over the already licensed products of others with their longer durations of patents.

[6] As for the connection between innovation and financial markets in the 'red' biotechnology sector cf. Briken and Kurz 2004, 2006.

the increase in research output their top priority. Especially the tighter supervision of research work – strictly aligned to financial figures and narrowly conceived, unambiguously addressed indications – is constantly justified with the intention to avoid any possible deadlock, to shorten development times and by doing so to concentrate one's financial resources on promising projects. The result, however, is negative. The total number of newly permitted drugs is in decline. A tendency that is even more pronounced, if one leaves aside the so called 'me-too-medicaments', whose structure and effects hardly differ from already existing drugs (Rydzewski 2008, 16-18).

There is hardly a definitive answer to the question whether this is the case because of stricter controlling or rather despite of it. What speaks for the latter assumption is the fact that German Bayer Group's last real blockbuster, the anti-infective Ciprofloxacin, was developed under conditions (o.A. 2000) that do not any longer exist, due to the restructurings of the 1990s carried out with explicit reference to shareholder and company value. The drug was not developed in pharmaceutical research but rather in the former (horizontal) central research section, whose dissolution ran parallel with the dissolution of the old industrial structure. Focussing on 'core competences' and tabooing industrial synergies as cross subsidising implied that there was no room any more for a research structure focussing on scientific and technological synergies among different business areas. And the new drug only came about because two developers secretly carried on with the officially cancelled project – a kind of behaviour no longer possible under the new regulations. An individual case, admittedly, but from which one probably can draw some more general conclusions on changing orders of justifying economic action (not only) in the research area.

It is important to take serious the fact that continuing on the project for six months and by this neglecting a formal management decision was possible and practically accepted in the company at that time. The researchers violated formal rules, but they did it within limits of a conventionally accepted manner. They did not simply ignore or deny the relevance of formal organisational rules in principle. Rather they justified their behaviour by exploiting the gap between formal and conventional organisational rules, referring to the two complementary tiers of orders of engagement introduced by Thévenot (2006): the orders of explicit justification, where professional standards as scientists came into play; and the areas of informal rules and hierarchies in familiar here-and-there relations. Conditions for justifying economic action in the field have fundamentally changed since then by introducing clearly defined financial and temporal targets that are being made obligatory by narrow monitoring procedures based on detailed guidelines and metrics. As a result, the room for actors to find their own view on applying organisational rules has significantly diminished.

We do not want to overstress the individual case. However, fact of the matter is that the company's last important pharmaceutical innovation wouldn't

have materialised under present conditions and that comparable results (under these new conditions) are yet to come.[7] The example given and the fact that pharmaceutical innovations frequently turn out to be effective in different ways than originally calculated, may be seen as a hint that innovations and a narrowly conceived control aligned to indices do not harmonise very well. It is therefore doubtful whether the problem of innovation can be solved through a newly accentuated separation of labour between industrial and academic research. Recent research in the field of bio sciences raises further doubts (Kurz and Wolf 2009).[8]

7. Alignment to Financial Markets as a Marginalisation of Operational Work

The preference for immaterial rather than material resources can be seen as one main feature of company strategies aligned to the financial markets. Intellectual property and the competences necessary for it are considered to be of central importance, whereas investments in material production and other functions are seen as restrictions which have to be minimised as far as possible. There is no room for tapping and developing innovation competence in the sector of material production – unless it can be presented as the adoption of standards set by a leader in the field (keyword: Toyotism). The prevailing logic could be summed up as follows: Investment goes into the development of intellectual property, whereas in the service and production sectors one tries to save money. However, the latter tendency can only indirectly be ascribed to the demands voiced or the targets set by investors and authorities from outside the companies. Because HR-policy and the corresponding strategies below the higher management level play no independent role – as Faust et al. (2007) demonstrated – for the evaluation of enterprises by analysts and fund managers. From this perspective the personnel does not appear as a resource, but as an expense factor. Labour costs can be quantified precisely, whereas the amount of value attributable to the staff becomes an indistinguishable part of the overall result. Within the companies the alignment towards the financial markets materialises as a continual, close-meshed planning with detailed targets in form of detailed indices

[7] A comparison of turnovers in the pharmaceutical industry between 2001 and 2007 shows that he profits from Bayer's own medicaments have declined. Thus, internal innovations were not even sufficient to compensate for the expiring Ciprofloxacin patent. That the company is doing well nevertheless is due to Bayer's takeover of the Schering AG which brought two blockbusters into the alliance. They are now Bayer Pharma's top sellers and its main source of profit.

[8] Apart from that there is a fundamental impairment of innovations caused by the controlling according to criteria of the financial markets and the focussing of research on sections with blockbuster potential. For drugs against diseases of small populations or big populations with no money there is no place here.

(Nicolai and Thomas 2004). Therefore operating managers, who have to present their indices every three months, prefer to concentrate on simple and immediate cost cutting measures rather than to get involved with the uncertain long-term business of innovations at the work place. This is clearly indicated by the definition of wholesale cost cutting targets subsequently applied to the different sectors. It is in this spirit that the orientation towards Toyotism takes place, i.e. as a selective, key figure oriented benchmarking – and not by adopting the complex organisational makeup of the original enterprise (Kuhlmann, Sperling, and Balzert 2004, 323-333). As a result we find standardisation and dequalification becoming major trends in organising operational work. Taylorism, which during the crisis of Fordism temporarily got into trouble, is returning to the production sector as a means of cost management – and by doing so changes its face. Originally the embodiment of an increase in material productivity by means of industrial engineering, it now functions as a basis for cost management by means of financial engineering. Another variety of this orientation is the demerger of the service and infrastructural sectors, which are still necessary for the enterprise but no longer part of the core business. However, different company strategies in this respect and the revocation of already completed outsourcings prove that the management of the real economy through financial controlling has its limits – limits which might serve as a trigger to reinterpret existing economic necessities.

8. Conclusions

In 2008 the most important financial and economic crisis since the 1930s has erupted. Or to put it in Taleb's terms: The Black Swan has come and found a financialised world completely unprepared, not despite but because of its comprehensive impregnation with financial rationality. Whereas former financial crisis used to happen in societies where the vast majority of economic activities was only indirectly linked to the financial sphere and its (ir)rationalities, if at all, financial rationality now has become established as generic economic rationality *sans phrase*. And when in the 1920s and 1930s and in the age of Fordism "Scientific Management" was on optimising economic efficiency by industrial engineering, sciences of management are nowadays based on financial economics. There is still a plurality of conventional economic rationalities, however dominated by financial rationality.

Financial economics and financial rationality have become established as a dominant language-game[9] for the scientific community of economists *and* for

[9] We refer to Wittgenstein's (2009) concept of language game and to its application by Olivier Favereau in his discussion of the (realised) pragmatic and the (hypothetic) radical version of Keynes' General Theory (Favereau 2005).

important practical economic actors. This makes an important difference between the situation of the 1920s and 1930s, when dominant "orthodox" economics could not even conceptualise crucial problems of practical economic actors, and by this *de facto* gave room to heretic economists focussing on these problems (Favereau 2005). Practical economic actors in the financial and in the real economy today are main supporters of financial rationality, the first using it as production technology, the latter by justifying management strategies. Interpreting financial rationality for practical use in a financialised world gives enormous power to these actors.

This empowerment remains relative for financial actors as well as for corporate strategic management, exactly because bringing together different rationalities is not just an intellectual operation but mainly the outcome of practical negotiating and bargaining. Their autonomy to define situations based on their respective interpretations of financial rationality and financial markets' requirements finds its limitations in the power resources of actors bringing other perspectives on rationality and legitimacy into play, and in the preparedness of those actors to make their power resources effective. For strategic management this is financial actors and the general public of financial markets in the first place. Top managers cannot simply ignore financialised codes and cognitive framings, but have to "explain" strategy and actions in compatible terms. However, financial actors have no original competence to evaluate non financial business, but depend on models and interpretations delivered by management. So there is much room for creative interpretation by convincingly presented narratives (Froud et al. 2006; Froud et al. 2009)[10]. And there are other relevant actors and competing rationalities within companies. Where a company's business depends on product strategies that essentially rely on collective capabilities of a qualified and socially well integrated workforce, management cannot really ignore those workers' perspectives on justified economic action. So what becomes effective as financial rationality is a result of bargaining on economic rationalities and legitimacy, however with financial rationality and its supporters in a dominant position. So when disparities of income strongly increase in financialised societies, this is not because of a shift from wages to capital incomes, as reference to shareholders' interests might suggest, but because of exploding incomes of top wage earners such as top managers and top financial agents in the first place (Atkinson, Piketty, and Saez 2010).

[10] As the most impressive example for the power of creative interpretation and narrative we would see the case of General Electric in the era of CEO Jack Welch. GE and Jack Welch for many years were perceived (and valued) as paradigmatic for Shareholder-Value-Management despite the fact, that GE was an industrial conglomerate par excellence (Froud et al. 2006, 299-368). Moreover, Beunza and Garud (2007) demonstrated the influence of securities analysts as "frame-makers" in selecting among competing narratives or business stories.

By becoming a dominant language-game, financial economics and financial rationality have cut the umbilical cord to financial markets in a narrow sense. Accordingly the financial and economic crisis since 2007 is perceived by the dominant economic and political discourse as a crisis in the financial marketplace only, certainly a dramatic one that nonetheless will not compromise 'the' financial market in its position as a theoretical point of reference and justification. In this perspective, the focus is on individual greed and moral deficiency of important actors, particular organisational and technical inefficiencies in evaluating and regulating financial market activities and the like as the very causes of the crisis. Just as particular deviations do not really question Kuhn's scientific paradigms but at most initiate some refinement, those factors will initiate some fine-tuning of econometric models and financial regulation but not question the dominance of financial rationality and financialised capitalism as economic rationality *per se*.

Contrary to this dominant perception we hold a view of the actual crisis as being the outcome of fundamental systemic instabilities of financialised capitalism, caused by grading up financial rationality from being one economic rationality among others to becoming generic rationality *sans phrase*. For one most important outcome of conventional as well as institutional analysis (Nelson 1997; Nelson and Winter 1982) is that there is no optimisation of economic strategies and organisations. In this line Salais and Storper (1997) have demonstrated, how companies refer to different conventional rationalities in order to address different types of markets and of internal resources and the respective types of uncertainty and risk. And Nelson has argued that organisations always combine specific capacities and specific limits of organisational learning. Covering a broad variety of organisational configurations in this perspective is an important asset for an economy and its stability and development perspectives. Put in a nutshell: The adequacy of organisational forms or specific rationalities depends on situations. And the capacity of individual actors, organisations, and societies to deal with uncertainty in always contingent situations depends on the capacity to draw on a variety of rationalities and organisational forms in order to find situated or "satisficing" (Simon) solutions. Reducing the plurality of socially constructed conventional rationalities by establishing financial rationality based on financial economics as the general standard for economic rationality therefore does not enhance but severely decrease the capacity for rational economic action in the only realistic understanding: as achieving bounded rationality under the conditions of real uncertainty.

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